SECTION C

STATEMENT OF WORK

C.1 TASK ORDER OBJECTIVES

C.1.1 Task Order Purpose and Overview

This is a Cost Plus Incentive Fee Task Order issued under the U.S. Department of Energy (DOE) Office of Environmental Management's (EM) Multiple Award Indefinite Delivery Indefinite Quantity (ID/IQ) Task Order Contract. This Task Order Statement of Work (SOW) reflects the application of approaches and techniques that emphasize performance based results/outcomes and minimize "how to" performance descriptions. The ID/IQ Task Order Contractor (hereinafter Contractor) has the responsibility for total performance under the Task Order, including determining the specific methods for accomplishing the work.

The purpose of this task order is to obtain services for environmental restoration of approximately fifteen acres of soil and groundwater contaminated with radioactivity and chemicals in the Separations Process Research Unit (SPRU) land areas. Completion of this work scope requires cleanup of radiologically and chemically contaminated soil areas in accordance with land use criteria contained or referenced in this statement of work.

C.1.2 Background

The SPRU, located at Knolls Atomic Power Laboratory (KAPL) in Niskayuna, New York, was operated from 1950 to 1953 as a pilot plant to research the REDOX and PUREX chemical processes to extract uranium and plutonium from irradiated uranium. These operations contaminated the SPRU facilities and environmental media, resulting in the need to remediate the SPRU site. The SPRU site land areas are owned by the U.S. Department of Energy (DOE) and are currently maintained by SPRU Project contractors. See Exhibit A-SPRU Project Area Locator Photographs, and Exhibit D- SPRU Project Applicable Documents. The SPRU site land areas addressed in this scope of work cover approximately 15 acres, of which about 5 acres are estimated to be contaminated chemically and/or radiologically from past operations and require cleanup under this Task Order.

C.1.3 Task Order Objectives

Task Order completion will be achieved when the following are accepted by DOE as complete.

1. The Lower Level Railbed Area and Lower Level Parking Lot are cleaned up in accordance with the criteria in this Task Order.

2. Wastes have been shipped and disposed offsite in a permitted disposal facility.

3. Final Cleanup Reports for both radiological and chemical cleanup are completed and approved by DOE.

4. The land areas remediated are restored and graded for proper drainage, and reseeded or repaved as appropriate.

C.1.4 Site Description

The SPRU land areas are owned by DOE and currently operated by DOE's incumbent contractor. The SPRU site consists of the main G2 and H2 Buildings (including associated pipe tunnels and underground tank enclosures), and the land adjacent to these facilities including a SPRU project trailer located to the west of Building G1. This area is known as the "Upper Level." The land areas (sometimes called the "outside areas") consist of five RCRA Solid Waste Management Units (SWMUs), and one Area of Concern (AOC). The SWMUs in the Lower Level include the Former Railroad Staging Area, the Former K6 Storage Pad (demolished), the Former K7 Storage Pad (demolished), the Former K5 Retention Basins (demolished), the Lower Level Parking Lot, and the Former Slurry Drum Storage Area which is located in the North Field area. The Red Pines Area has not been established as a separate SWMU and is located on the east side of the North Field. This Task Order does not require the Contractor to perform any cleanup in the Upper Level, Upper Level Buildings, North Field Area, or Red Pines Area.

The SPRU land areas identified for cleanup under this Task Order have been investigated for radiological and chemical constituents. DOE, using its authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) has pursued cleanup of radioactivity and the chemicals in the SPRU land areas using the non-time critical removal action process. An Engineering Evaluation and Cost Analysis (EECA) has been issued, presented to the public, and DOE has selected the preferred alternatives. New York State Department of Environmental Conservation's (NYSDEC's) Resource Conversation and Recovery Act (RCRA) regulations and RCRA corrective action process is an appropriate and relevant requirement noted in DOE's documents. DOE has submitted the RCRA Facility Assessment (RCRA RFA) to NYSDEC. Based upon the information contained in the RCRA RFA and discussions with NYSDEC, the SPRU Project and NYSDEC have agreed in concept that the SPRU project can eliminate the RCRA Facility Investigation and Corrective Measure Study for soil if the presumptive remedy of remedial cleanup is chosen.

C.1.5 Cleanup Criteria

The Contractor shall be responsible for the removal of radioactivity and chemicals. The Contractor shall not blend soil to achieve the cleanup criteria for this Task Order.

The Contractor shall hold open the excavation area until:

- A draft RCRA Interim Corrective Measures (ICM) Report in accordance with NYSDEC requirements has been provided by the Contractor and accepted by the Designated Contracting Officer Representative (DCOR).
- A draft Radiological Cleanup Completion Report in accordance with Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) requirements has been provided by the Contractor and accepted by DCOR.
- DCOR has made a decision on whether additional soil removal is required.

The decision to accept the draft reports, or require additional sampling or soil removal, will be made by DOE within 90 days of receipt of the aforementioned reports. The Contractor shall provide access to DOE, its contractors, NYSDEC, and other persons authorized by the DCOR to the work areas for the purpose of performing verification surveys and sampling and other Task Order oversight as described in Section H, of this Task Order. Upon DCOR acceptance of the Contractor reports, the Contractor shall restore the area to original grade and provide grading to prevent pooling of water and to minimize erosion. Structural fill, backfill, compaction, reseeding, and paving specifications are provided in Exhibit E. The Contractor shall practice due diligence sampling of structural fill, back fill, and topsoil suppliers to ensure fill materials are not contaminated with chemicals or radioactivity.

The soil cleanup criteria are as follows:

Chemical Cleanup Criteria

The cleanup criteria for chemicals in soil are contained in New York State Requirements Determination of Soil Cleanup Objectives and Cleanup Levels (Technical and Administrative Guidance Memorandum (TAGM) - 4046).

After the DCOR accepts the draft RCRA ICM Report, the Contractor shall prepare the report for publication and submit the report to the DCOR. DOE will submit the report to NYSDEC for approval. The Contractor shall provide continuing technical support, during the period of this Task Order, in order to obtain NYSDEC's approval and issuance of a "No Further Action" determination. Technical support includes, but is not limited to the following:

- Meetings with NYSDEC
- Response to questions from NYSDEC

In the event that additional sampling or soil removal is deemed necessary after the DCOR accepts the RCRA ICM Report, and prior to the completion of this Task Order, the Designated Contracting Officer (DCO) will provide instruction.

Radiological Cleanup Criteria

The cleanup criteria for radioactivity in soil at SPRU are set forth in the following table:

Industrial Land Use Derived Concentration Guidelines (DCGL) Values for Cleanup at SPRU	
Radionuclide	Industrial Land Use DCGL (pCi/g). Lower Level Rail Bed Area and Lower Level Parking Lot
Americium-241	574
Cesium-137	30
Cobalt-60	9.78
Europium-152	21.8
Europium-154	20.1
Europium-155	852
H-3 (Tritium)	1.04E+06
Nickel-63	5.10E+06
Plutonium-238	792
Plutonium-239	714
Plutonium-240	715
Plutonium-241	19,120
Promethium-147	1.59E+06
Samarium-151	6.59E+06
Strontium-90	4,654
Technetium-99	1.43E+06
Thorium-232	9.05
Uranium-234	1,162
Uranium-235	188
Uranium-238	851
Zirconium-93	1.34E+06

Upon completion of cleanup, the Contractor will perform a confirmation radiation surveys, and sampling using MARSSIM guidelines for the following radionuclides and using minimum detectable activities below:

Radionuclide	Minimum Detectable Activity pCi/g
Cs-137	2
Sr-90	1
Pu (each isotope)	2.5
U-234	5
U-235	2.5
U-238	5
Am-241	1
Th-232	1
Co-60	1

The Contractor shall not use the hot spot criteria to determine acceptability of residual contamination.

The Contractor's draft Radiological Cleanup Report includes but is not limited to the summary description of the cleanup effort, summary evaluations, laboratory data, data quality evaluations, and statistical analyses to the DCOR. Once the DCOR accepts the draft report, the Contractor will publish the report and submit it to the DCOR. DOE will submit the report to Office of Naval Reactors (Naval Reactors) for approval. The Contractor shall provide continuing technical support, during the period of this Task Order, in order to obtain acceptance by Naval Reactors. Technical support includes, but is not limited to the following:

- Meetings with Naval Reactors
- Response to questions from Naval Reactors

In the event that additional sampling or soil removal is deemed necessary after the DCOR accepts the Radiological Cleanup Report, and prior to the completion of this Task Order, the Designated Contracting Officer (DCO) will provide instruction.

Backfill Soil Criteria

Onsite soil reused as backfill must be sampled in accordance with MARSSIM and meet the release criteria for radioactivity, must be sampled in accordance with an approved sampling program and meet NYSDEC TAGM 4046 requirements for chemicals contained in this Task Order. The Contractor shall ensure that backfill soil from offsite locations does not contain radioactivity exceeding background values and must be below NYSDEC TAGM 4046 values for chemicals.

C.2 ENVIRONMENTAL REMEDIATION

C.2.1 Land Area Environmental Restoration Activities

Environmental restoration activities shall include chemical and radiological cleanup of the SPRU land areas including, but not limited to surface and subsurface soil, and incidental groundwater that is contaminated and needs to be removed from the work area, or groundwater that becomes contaminated as result of cleanup activities and needs to be removed from the areas. The Contractor shall use the historical documents provided in Exhibit D – SPRU Project Applicable Documents, to aid in the determination of removal of contaminated soil, waste characterization, and perform any additional sampling necessary to complete this Task Order.

The Contractor shall accept responsibility from the incumbent Contractor using the land transfer forms contained in Exhibit F. Upon completion of the Task Order the Contractor shall transfer land areas to KAPL or another DOE contractor using the land transfer forms contained in Exhibit F.

The following sections include task descriptions that are applicable to each soil cleanup area:

C.2.1.1 Groundwater -Work Breakdown Structure (WBS) 1.4.8.10.3.2

The Contractor is required to manage groundwater infiltration, and storm water run-on/runoff from the work areas. Contaminated water and silt may not be discharged directly to the site storm drain system or directly to surface water streams and the river without processing to remove contaminants or silt.

C.2.1.2 Lower Level Railbed Area (LLRBA) -WBS 1.4.8.10.3.3.2

The LLRBA is shown in Exhibit B. This area is bound to the north by a security fence, the west by the Lower Level Access road, the east by the security fence, and the south by a security fence between the upper and lower level area. There are two security fences bounding the east side. The KAPL sewage lift station is located between these fences. The area enclosed by the two security fences isolating the sewage lift station is included in the cleanup area. The LLRBA contains the following SWMUs: the Railroad Staging Area (SWMU-038), the former K7 Storage pad (SWMU-037), former K6 Storage Facility (SWMU-036), and former K5 Retention Basin (SWMU-040), the latter three of which are located within the Railroad Staging Area.

The Contractor shall:

- Remove radiological and chemical contamination in soil and debris (which is expected to be encountered in the LLRBA) to the criteria specified in this task order for the entire LLRBA including chemicals that are not regulated as a RCRA release. Soil removal activities shall be conducted below the water table, as needed, to remove contaminated soil, debris, and the catch basins and to achieve the cleanup criteria.

- Remove a portion of the storm drainage system defined by catch basins No. 9, 18, 25, 32, 41, and 42, and their associated connecting piping and concrete conveyances within the confines of the LLRBA physical area from the active storm drain main line, and to the limits of the security fence on the northwest section of the railbed as shown in Exhibit C. Termination of the piping and conveyances shall be done per industry practices and prevent leakage of groundwater into or leakage of effluent out of the remaining sections.

- Remove abandoned fence post concrete anchors which run west to east in the railbed.

- Restore the LLRBA to original grade with structural backfill and repair former paved areas per the specifications in Exhibit E. KAPL may wish to establish a parking area in the cleaned Railbed Area. If this is the case, the Contractor shall coordinate with KAPL, who will identify the proposed parking area. The Contractor may substitute fill materials with technical specification 02200-2 paragraph 2.01 (c) parking lot base material in lieu of topsoil and structural fill. KAPL site will be responsible for binder coat and blacktop installation. The technical specifications are located in Exhibit E.

C.2.1.3 Lower Level Parking Lot (LLPL)-WBS 1.4.8.10.3.3.4

The LLPL (AOC-003), located northwest of the Railroad Staging Area, consists of soil and construction debris fill material located below and adjacent to the Lower Level access road as specified in Exhibit B-7. The parking lot is currently used by KAPL as an employee parking area. A designated wetland area exists northwest of the parking lot as specified in Exhibit C.

The Contractor shall:

- Remove radiological and chemical contamination in soil and debris (which is expected to be encountered in the LLPL) to the criteria

specified in this task order for the entire LLPL including chemicals that are not regulated as a RCRA release.

- Restore the LLPL to original grade with structural backfill and repair former paved areas per the specifications in Exhibit E.
- Coordinate with KAPL to minimize parking disruptions and delays between the LLRBA and LLPL.

C.2.1.4 K5 Retention Basins-WBS 1.4.8.10.3.3.3

The K5 Retention Basin is located within the LLRBA. The K5 concrete structure identified in Exhibit B has been previously removed. Previous characterization reports are listed in Exhibit D. The Contractor shall perform the following:

- Ensure characterization of soil is sufficient to accomplish the Task Order objectives
- Remove radiologically and chemically contaminated soils in accordance with the cleanup criteria identified in this Task Order.

C.2.1.5 Land Area Program Management-WBS 1.4.8.10.3.1

Miscellaneous Site Work

In performing all Site work, the Contractor shall:

- Protect existing sampling wells near work sites during excavation operations, and replace sampling wells if damaged or removed. Identify all operational utilities prior to excavation activities per standard industry practices and ensure that disruptions of KAPL site operations are minimized.
- Coordinate utility shut down and reactivation with KAPL.

Mobilization-WBS 1.4.8.10.3.1.X.4.5.1

No services are provided by KAPL or DOE except as noted in the Government Furnished Services section or in an individual statement of work section.

The Contractor shall:

- Use existing on-site office facilities for its key personnel and will have access to trailers SP-23, -24, and -25. The Contractor and DOE personnel shall not share the same office space, nor shall trailers SP-23, 24 or 25 be used for the storage or handling of radioactive materials and samples, hazardous wastes, or shall they be used as laboratory spaces.

- Provide miscellaneous trailers, and temporary material storage facilities otherwise needed during cleanup activities and shall remove such facilities after they are no longer needed. Any new Contractor-acquired trailers and storage facilities, other than temporary units, shall be Energy Star Efficient and comply with Executive Order 13123.
- Provide furniture, computers, telephones and other equipment for contractor personnel.
- Install temporary utilities for trailers, facilities, and storage areas. The Contractor may use the KAPL site tie in locations as available and agreed to by KAPL, or city services. The Contractor will be required to pay city services.

Contractor Demobilization-WBS 1.4.8.10.3.1.X.5.33

The Contractor shall plan for the demobilization of staff and restoration of any areas disrupted by the Contractor during performance under this Task Order. The Contractor shall prepare and submit to DOE for approval a demobilization and restoration plan. The plan shall cover excess equipment, office equipment, records, furniture, and identify the records to be transferred to DOE.

Preparation of Plans-WBS 1.4.8.10.3.1.X.4.3

The Contractor shall:

- Prepare an excavation plan for DCOR review and comment documenting the estimated volumetric footprint of contaminated soil (both chemical and radiological) to be removed and the approach (e.g., in process remedial surveys and sampling) to complete cleanup. The plan will include a mapping using the same survey reference points as specified in Exhibit D and the area to be excavated in each grid and the initial surface area and depth for each grid. Any utility deactivations, tie outs and re-routing (as needed) shall be shown in the Contractor's excavation plans, and marked on existing utility drawings.

- Conduct a Readiness Assessment (RA) before cleanup activities begin and prepare a Readiness Assessment Report for the LLRBA and LLPL. The Contractor's RA shall verify the requirements below are completed:

    - Land Transfer Form
    - Excavation Work Plan
    - RCRA Interim Corrective Measures (ICM) Work Plan (requires NYSDEC approval)

- RCRA ICM Quality Assurance Plan (requires NYSDEC approval)
- RCRA Health and Safety Plan
- Worker Safety and Health Program
- ISMS system description
- Radiation Protection Program
- Environmental Protection Program
- Emergency Preparedness Plan
- Project Security Plan
- DOE LAP Certified Dosimetry Program (if certification is required)
- Erosion & Sediment Control Plan (per MS4 permit requirements)
- Quality Assurance Program
- Status of security clearances
- Identification and status of site specific training
- Documentation of completion of contractor staff training
- Dosimetry program status
- Equipment availability and status
- Regulatory approvals including permits and work plan approvals
- Emergency response capability identified and arrangements with the KAPL site are finalized.
- Identify contractors finalized supporting plans to execute field work.
- Emergency training exercise with Knolls Site personnel simulating a contaminated injured worker. (This is to be done as part of the Readiness Assessment.)

The Contractor shall provide DOE with an outline of the review to be conducted, and a list of the team members prior to conducting the review. The Contractor shall provide to the DCOR the resulting findings and corrective actions prior to requesting DOE's verification review and written authorization to proceed with field work. The Contractor review team shall include members not involved in the day to day operations of the SPRU site such as Corporate Safety and Health, and Quality Assurance.

DOE will review and verify the Contractor's RA within twenty-one (21) calendar days. DOE will provide comments at the end of the verification review, and will provide either written authorization to proceed with work or a list of activities requiring additional attention prior to proceeding with field work.

- Prepare a Final Status Survey and Confirmation Sampling and Analysis Plan (CSAP) consistent with MARSSIM protocols and requirements of this Task Order for DCOR review and comment. The CSAP shall outline the data quality objectives, radiological sampling to be performed at each area and shall include the number and locations of samples to be collected, and the frequency of sampling. It shall also include a confirmation sampling Quality Assurance Plan as an appendix to the CSAP to support the confirmation sampling program. The Contractor shall submit this plan to the DCOR at least 60 days prior to starting the confirmation sampling effort. (Note: This Quality Assurance Plan is a separate and distinct plan from the Quality Assurance Program.).

- Prepare a RCRA ICM Workplan, confirmation sampling program, quality assurance plan, and health and safety plan in accordance with NYSDEC's regulations and requirements for DCOR review and comment. DOE will submit these plans to NYSDEC for approval prior to starting the soil removals. The Contractor shall submit this plan to the DCOR at least 90 days prior to the planned start of soil removals. (Note: This Quality Assurance Plan is a separate and distinct plan from the Quality Assurance Program.).

See the Deliverables list Section J, Attachment III of this Task Order for additional plans requiring DOE approval.

Surveillance and Maintenance-WBS 1.4.8.10.3.1.X.4.6

The Contractor shall be responsible for radiological, environmental, safety and health for all of the land areas covered by this Task Order. This includes land areas that are managed as "Soil Contamination Areas" utilizing DOE STD 1098-99 Radiological Controls, including the LLRBA, LLPL, and any areas where project trailers and storage areas are established. KAPL and DOE are not responsible for providing services except as noted in the Government Furnished Services section and/or the SOW of this Task Order.

Sampling and Analysis-WBS 1.4.8.10.3.1.X.4.08

For all required final status surveys and sampling for radioactivity and final RCRA cleanup reports the Contractor shall:

- Use laboratories that have the required State and Federal certifications.
- Ensure that the laboratories used for chemical and radiological analyses are qualified for the state in which waste disposal occurs.

- Ensure that the laboratories have an acceptable quality assurance (QA) and quality control (QC) program to meet the established data quality objectives of the CSAP.
- Ensure laboratories selected to perform analytical services are: (1) Certified by New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) and (2) capable of providing NYSDEC Analytical Services Protocol (ASP) data packages.
- Perform data analysis and validation using the following order of precedence: NYSDEC, EPA, or recognized industry standards. The Government reserves the right to verify data quality evaluations data through a third party.

C.2.4 Waste Management

The Contractor shall:

- Be responsible for all waste management activities including the payment of disposal site fees. Waste management costs shall be allocated into the correct WBS activity, i.e. LLRBA, LLPL, K5 respectively.
- Institute signature security services to ensure waste shipped under this Task Order is received and disposed of at the proper disposal facility.
- Obtain approval of all placarded shipments of waste, and certain other shipments in accordance with DOE's automated shipment approval system.
- Ensure all vehicles are road worthy, drivers properly trained, and that only U.S. citizens are brought on site at SPRU regardless of whether the waste shipment is placarded (See DOE memoranda September 11, 2006 and November 29, 2006).
- Use the USEPA Hazardous Waste Generator Identification Number for the SPRU Project identifying DOE as the owner of the waste for any document where such a number is required. Where the signature of the generator or shipper is required certifying that the waste has been properly characterized or packaged, the Contractor is to ensure a properly trained, experienced, and appointed person signs on behalf of the DOE. A copy of the Contractor appointing letter and qualifications of the individual shall be provided to the DCOR.
- Implement a waste minimization and pollution prevention program consistent with the applicable Executive Orders and DOE Directives. The program shall be documented in the Waste Management Plan.

The Contractor may use existing contractual instruments between the Federal Government and waste disposal facilities (if permitted by the terms and conditions of such instruments) when disposing of waste unless the Contractor can obtain more favorable cost arrangements. Any such new subcontract shall be subject to review and approval by the DCO and/or DCOR and shall not

compromise the integrity of existing federal or state environmental and health regulatory requirements.

C.2.5 Regulatory Activities

The Contractor shall:

- Comply with site-wide KAPL environmental permits.
- Obtain all necessary licenses and permits required to implement remediation and cleanup activities, including but not limited to regulatory notifications and NEPA compliance required for project activities (e.g., NEPA Categorical Exclusions, National Emissions Standards for Hazardous Air Pollutants (NESHAP) notifications/evaluations).
- Sign as "operator" on all necessary permits (e.g. RCRA permit) and DOE will sign as "owner".
- Make all regulatory contacts through the DOE SPRU Field Office.
- Prepare all submittals to regulatory officials and submit to the DCOR for review and regulator approval. The DOE will forward the submittal to the appropriate regulator.
- Provide technical expertise to DOE for regulatory interaction which includes, but is not limited to, presentation materials, participation in meetings and providing documentation of all regulatory interactions.
- Provide to the DCOR copies of all correspondence with the regulatory agencies including but not limited to inquiries and the Contractor's responses to those inquiries, copies of Notices of Violations, copies of audit findings, and other related correspondence when such communication is initiated from the regulator and sent directly to the Contractor.

C.2.6 Public Affairs Activities

The Contractor shall:

- Support DOE in the coordination of any SPRU-related community relations activities.
- Review the Public Involvement Plan and support any of the activities required for the continued communication with state and local government officials, new media, local citizens groups, and KAPL. The Contractor may be required to coordinate with the media, local government officials, and other stakeholders for the start of soil removal.

C.2.7 Meetings

The Contractor shall:

- Schedule bi-weekly meetings to discuss progress with the DCOR prior to mobilization on site.
- Once mobilized on site, meet with the DCOR once per week to inform the DCOR of planned work activities and potential issues that may impact progress to schedule milestones, and interface activities needed with the KAPL personnel, or regulators, and efforts to manage risks.
- Meet with KAPL key individuals at least twice prior to mobilization to discuss planned work and identify any interface issues that may arise during the course of work activities.
- Attend KAPL meetings on subject matters that interface with the SPRU Project (e.g., storm water pollution prevention monthly meetings, security, permitting, etc.)

STATEMENT OF WORK (SOW)
LIST OF EXHIBITS

EXHIBIT A-	SPRU PROJECT AREA LOCATOR PHOTOGRAPHS
EXHIBIT B-	LAND AREA PHOTOGRAPHS
EXHIBIT C-	LAND AREA DRAWINGS/MAPS – include drawings that show catch basins to be removed, wetland areas
EXHIBIT D-	SPRU PROJECT APPLICABLE DOCUMENTS Land Area Historical Site Assessment Land Areas Engineering Evaluation and Cost Analysis (EECA) Land Areas EECA Fact Sheet Radiological Characterization Report RCRA Facility Assessment Sampling Visit RCRA Facility Investigation Report for Ground Water Pending Reports and Letters: Action Memorandum for Preferred Alternative RCRA Facility Assessment Sampling Visit –Structure K5 New York State Department of Environmental Conservation Concurrence (NYSDEC) - RCRA RFA Structure K5 NYSDEC Concurrence - RCRA RFI for Groundwater
EXHIBIT E-	MISCELLANEOUS SPECIFICATIONS
EXHIBIT F-	ES&H RESPONSIBILITY TRANSFER DOCUMENTS
EXHIBIT G-	SPRU PROJECT WBS